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Code :CSA0976

Course : Programming in java

Slot :A

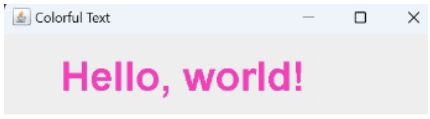
ASSIGNMENT-3

1.

```
import java.awt.*;
import java.util.*;
import javax.swing.*;

public class ColorfulText extends JPanel implements Runnable {
    private static final long serialVersionUID = 1L;
    private int x, y;
    private String message;
    private Color color;
    private Random random;

    public ColorfulText() {
        x = 50;
        y = 50;
        message = "Hello, world!";
        color = Color.BLACK;
        random = new Random();
    }

    @Override
    protected void paintComponent(Graphics g) {
        super.paintComponent(g);
        g.setFont(new Font("Arial", Font.BOLD, 36));
        g.setColor(color);
        g.drawString(message, x, y);
    }

    @Override
    public void run() {
```

```
        while (true) {
            try {
                Thread.sleep(1000);
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
            color = new Color(random.nextInt(256), random.nextInt(256), random.nextInt(256));
            repaint();
        }
    }

    public static void main(String[] args) {
        JFrame frame = new JFrame("Colorful Text");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 200);
        ColorfulText colorfulText = new ColorfulText();
        frame.add(colorfulText);
        frame.setVisible(true);
        Thread thread = new Thread(colorfulText);
        thread.start();
    }
}
```

OUTPUT:



2.

```
class Table
{
        void printTable(int n)
        {
                synchronized(this)
                {
                        for(int i=1;i<=5;i++)
                        {
                                System.out.println(n+"*"+i+"="+(n*i));
                                try
                                {
                                        Thread.sleep(500);
```

```
                                }
                                catch(Exception e)
                                {
                                        System.out.println(e);
                                }
                        }
                }
        }
}
class Mythread1 extends Thread
{
        Table t;
        Mythread1(Table t)
        {
                this.t=t;
        }
        public void run()
        {
                t.printTable(5);
        }
}
class Mythread2 extends Thread
{
        Table t;
        Mythread2(Table t)
        {
                this.t=t;
        }
        public void run()
        {
                t.printTable(10);
        }
}
class Use
{
        public static void main(String arg[])
        {
                Table obj=new Table();
                Mythread1 th1=new Mythread1(obj);
                Mythread2 th2=new Mythread2(obj);
                th1.start();
                th2.start();
        }
}
```

OUTPUT:

```
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
10*1=10
10*2=20
10*3=30
10*4=40
10*5=50
```

3.

```
import java.io.*;
import java.util.*;
class ugly
{
	public static boolean ugl(int n)
	{
		if(n<=0)
		{
			return false;
		}
		while(n%2==0)
		{
			n/=2;
		}
		while(n%3==0)
		{
			n/=3;
		}
		while(n%5==0)
		{
			n/=5;
		}
		return n==1;
	}
	public static void main(String arg[])
	{
		int n;
```

```
                Scanner a=new Scanner(System.in);
                System.out.print("Enter a numnber :");
                n=a.nextInt();
                if(ugl(n))
                {
                        System.out.print("True the given number is a ugly number");
                }
                else
                {
                        System.out.print("False the given number is not a ugly number");
                }
        }
}
```

OUTPUT:

```
Enter a number :6
True the given number is a ugly number
Enter a number :14
False the given number is not a ugly number
```

4.

```
import java.io.*;
import java.util.*;
class fiboseries
{
        public static void main(String arg[])
        {
                int n;
                Scanner a=new Scanner(System.in);
                System.out.print("Enter a number :");
                n=a.nextInt();
                if(n<0)
                {
                        System.out.println("Enter a positive Integer ");
                }
                else
                {
                        System.out.print("Output :"+fibonacci(n));
                }
        }
```

```
        public static int fibonacci(int n)
        {
                if(n==1||n==0)
                {
                        return(n);
                }
                else
                {
                        return(fibonacci(n-1)+fibonacci(n-2));
                }
        }
}
```

OUTPUT:

```
Enter a number :1
Output :1
Enter a number :2
Output :1
Enter a number :3
Output :2
Enter a number :4
Output :3
```

5.

```
class duplicate
{

   static int removeDuplicates(int arr[], int n)
   {

      if (n==0 || n==1)
         return n;

      int[] temp = new int[n];


      int j = 0;
      for (int i=0; i<n-1; i++)
```

```
            if (arr[i] != arr[i+1])
                temp[j++] = arr[i];

                temp[j++] = arr[n-1];


        for (int i=0; i<j; i++)
            arr[i] = temp[i];

        return j;
    }

    public static void main (String[] args)
    {
        int arr[] = {10, 20, 20, 30, 40, 40, 40, 50, 50};
        int n = arr.length;

        n = removeDuplicates(arr, n);

        for (int i=0; i<n; i++)
           System.out.print(arr[i]+" ");
    }
}
```

OUTPUT:

10 20 30 40 50